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(54) Title: TRANSGENIC MONOCOTYLEDONOUS PLANTS OVEREXPRESSING A NHX PROTEIN AND HAVING IMPROVED GROWTH CHARACTERISTICS AND A METHOD FOR MAKING THE SAME

(57) Abstract: The present invention concerns a method for improving plant growth characteristics, comprising increasing, in a monocotyledonous plant, expression of a nucleic acid encoding an NFIX protein and/or increasing activity of an NFIX protein, wherein said plant is grown under non-salt stress conditions.

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SEQUENCE LISTING

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<120> Monocotyledonous plants having improved growth characteristics and a method for making the same

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Val	Val	Leu	Lys	Phe	Leu	Gly																																																																																																																																																																																																																																																																																																																																																																															
210					Asn	Asp																																																																																																																																																																																																																																																																																																																																																																															
					Phe	Phe																																																																																																																																																																																																																																																																																																																																																																															
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Thr	Phe	Leu	Gly	Val	Phe	Ala																																																																																																																																																																																																																																																																																																																																																																															
225					Leu	Gly																																																																																																																																																																																																																																																																																																																																																																															
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						Ala																																																																																																																																																																																																																																																																																																																																																																															
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					240	Ile																																																																																																																																																																																																																																																																																																																																																																															
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					245																																																																																																																																																																																																																																																																																																																																																																																
						250																																																																																																																																																																																																																																																																																																																																																																															
						255																																																																																																																																																																																																																																																																																																																																																																															

CD097PCT.ST25.txt

Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Leu Asp Leu
 260 265 270

Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr
 275 280 285

Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys His Ala
 290 295 300

Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe Leu Tyr Val
 305 310 315 320

Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Glu Phe Ala Ser Asp Arg
 325 330 335

Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly Leu Val Leu
 340 345 350

Ile Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu
 355 360 365

Thr Lys Lys Ala Pro Asn Glu Lys Ile Thr Trp Arg Gln Gln Val Val
 370 375 380

Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
 385 390 395 400

Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala
 405 410 415

Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val
 420 425 430

Phe Gly Met Met Thr Lys Pro Leu Ile Arg Leu Leu Pro Ala Ser
 435 440 445

Gly His Pro Val Thr Ser Glu Pro Ser Ser Pro Lys Ser Leu His Ser
 450 455 460

Pro Leu Leu Thr Ser Met Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
 465 470 475 480

Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Thr Lys Pro Thr His
 485 490 495

Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
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Met Phe Gly Gly Arg Gly Phe Val Pro Phe Ser Pro Gly Ser Pro Thr
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Glu Gln Ser His Gly Gly Arg
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<210> 3
 <211> 1614
 <212> DNA
 <213> Arabidopsis thaliana

CD097PCT.ST25.txt

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gttaccattt	tgttgcattag	taaaggaaaa	agctcgatc	ttctcgctt	tagtgaagat	240
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aaggcagttt	tccgcattt	cgtgactatt	atgcttttg	gtgctgttgg	gactattatt	360
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catacctttg	caactttgtc	atttcttgcg	gagacat	ttttcttgc	tgttggaaatg	960
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aagtttacaa	gggcggggca	cacagatgt	cgcggaaatg	caatcatgt	cacgatgt	1260
ataactgtt	gtcttttag	cacagtgg	tttgcatttgc	tgaccaaaacc	actcataagc	1320
taccttattac	cgcaccagaa	cgccaccacg	agcatgtt	ctgatgacaa	caccccaaaa	1380
tccatacata	tcccttgc	ggaccaagac	tcgttgcatttgc	agccttcagg	gaaccacaat	1440
gtgcctcg	ctgacagtt	acgtggctt	ttgacacggc	ccactcgaa	cgtgcatttgc	1500
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<210> 4

<211> 538

<212> PRT

<213> *Arabidopsis thaliana*

<400> 4

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His	Ala	Ser	Val	Val	Ala	Leu	Asn	Leu	Phe	Val	Ala	Leu	Leu	Cys	Ala
								20				25			30

Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg	Trp	Met	Asn	Glu
					35			40			45				

Ser	Ile	Thr	Ala	Leu	Leu	Ile	Gly	Leu	Gly	Thr	Gly	Val	Thr	Ile	Leu
					50			55			60				

Leu	Ile	Ser	Lys	Gly	Lys	Ser	Ser	His	Leu	Leu	Val	Phe	Ser	Glu	Asp
	65				70				75			80			

Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	Ala	Gly	Phe
								85			90			95	

Gln	Val	Lys	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Val	Thr	Ile	Met	Leu
					100				105			110			

Phe	Gly	Ala	Val	Gly	Thr	Ile	Ile	Ser	Cys	Thr	Ile	Ile	Ser	Leu	Gly
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

CD097PCT.ST25.txt

115	120	125
Val Thr Gln Phe Phe Lys Lys Leu Asp Ile Gly Thr Phe Asp Leu Gly		
130	135	140
Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp Ser Val Cys		
145	150	155
160		
Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr Ser Leu		
165	170	175
180		
Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Phe		
185	190	
Asn Ala Ile Gln Ser Phe Asp Leu Thr His Leu Asn His Glu Ala Ala		
195	200	205
Phe His Leu Leu Gly Asn Phe Leu Tyr Leu Phe Leu Leu Ser Thr Leu		
210	215	220
Leu Gly Ala Ala Thr Gly Leu Ile Ser Ala Tyr Val Ile Lys Lys Leu		
225	230	235
240		
Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu Met Met Leu		
245	250	255
Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Asp Leu Ser Gly		
260	265	270
Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr Thr Trp		
275	280	285
His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His Thr Phe Ala		
290	295	300
300		
Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu Tyr Val Gly Met		
305	310	315
320		
Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp Thr Pro Gly		
325	330	335
Thr Ser Ile Ala Val Ser Ser Ile Leu Met Gly Leu Val Met Val Gly		
340	345	350
350		
Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu Ala Lys		
355	360	365
365		
Lys Asn Gln Ser Glu Lys Ile Asn Phe Asn Met Gln Val Val Ile Trp		
370	375	380
380		
Trp Ser Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu Ala Tyr Asn		
385	390	395
400		
Lys Phe Thr Arg Ala Gly His Thr Asp Val Arg Gly Asn Ala Ile Met		
405	410	415
415		
Ile Thr Ser Thr Ile Thr Val Cys Leu Phe Ser Thr Val Val Phe Gly		
420	425	430
430		

CD097PCT.ST25.txt

Met Leu Thr Lys Pro Leu Ile Ser Tyr Leu Leu Pro His Gln Asn Ala
435 440 445

Thr Thr Ser Met Leu Ser Asp Asp Asn Thr Pro Lys Ser Ile His Ile
450 455 460

Pro Leu Leu Asp Gln Asp Ser Phe Ile Glu Pro Ser Gly Asn His Asn
465 470 475 480

Thr Val His Tyr Tyr Trp Arg Gln Phe Asp Asp Ser Phe Met Arg Pro
500 505 510

Val Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr
 515 520 525

Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
530 535

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<210> 5
<211> 2232
<212> DNA
<213> Medicago sativa
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CD097PCT.ST25.txt

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ctggctcacc	aagtgaacgc	aatggtaatc	aatgggggtt	agaaaagaag	ccatgaaatg	1980
tgtaatatgt	gttgtatact	acgtatgatt	tgtaaaaagt	catgcaacgt	gtgtataatg	2040
tatttattgc	ataagaacct	agtagtggaaa	tttttcttta	aaaaaaaaacc	tcgttagtgaa	2100
attttggtga	gctgtttgag	tagctagttat	gagatggcctt	gccatctctc	tgtctattat	2160
gtaaactaca	atatttttta	gattctctga	gccattacat	gtttgtgtat	gtgtccaaaa	2220
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 <212> PRT
 <213> *Medicago sativa*

<400> 6
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 20 25 30
 Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp
 35 40 45
 Met Asn Glu Ser Ile Thr Ala Leu Leu Ile Gly Ile Cys Thr Gly Val
 50 55 60
 Val Ile Leu Leu Phe Ser Gly Gly Lys Ser Ser His Ile Leu Val Phe
 65 70 75 80
 Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn
 85 90 95
 Ala Gly Phe Gln Val Lys Lys Gln Phe Phe Val Asn Phe Met Thr
 100 105 110
 Ile Thr Ser Phe Gly Ala Ile Gly Thr Leu Ile Ser Cys Val Ile Ile
 115 120 125
 Thr Thr Gly Ala Thr Phe Ala Phe Lys Arg Met Asp Ile Gly Pro Leu
 130 135 140
 Glu Ile Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr Asp
 145 150 155 160
 Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu
 165 170 175
 Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val
 180 185 190
 Val Leu Phe Asn Ala Ile Gln Ser Phe Asp Leu Asn Gln Leu Asn Pro
 195 200 205
 Ser Ile Ala Leu His Phe Leu Gly Asn Phe Leu Tyr Leu Phe Val Ala
 210 215 220
 Ser Thr Leu Leu Gly Val Val Thr Gly Leu Leu Ser Ala Tyr Val Ile

CD097PCT.ST25.txt

225	230	235	240
Lys Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu			
245	250	255	
Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Thr Tyr			
260	265	270	
Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His			
275	280	285	
Tyr Thr Trp His Asn Val Thr Gln Ser Ser Arg Ile Thr Thr Lys His			
290	295	300	
Ser Phe Ala Thr Leu Ser Phe Val Ala Glu Ile Phe Ile Phe Leu Tyr			
305	310	315	320
Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Val Ser Asp			
325	330	335	
Ser Pro Gly Thr Ser Ile Ala Ala Ser Ser Val Leu Leu Gly Leu Ile			
340	345	350	
Leu Leu Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn			
355	360	365	
Leu Thr Lys Lys Ser Gln His Gln Lys Ile Ser Phe Arg Gln Gln Val			
370	375	380	
Ile Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu			
385	390	395	400
Ala Tyr Asn Gln Phe Thr Met Ser Gly His Thr Gln Leu Arg Ser Asn			
405	410	415	
Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Val			
420	425	430	
Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro His			
435	440	445	
Pro Lys Ile Thr Ser Ser Met Thr Thr Glu Ser Thr Thr Pro Lys			
450	455	460	
Ser Phe Ile Val Pro Leu Leu Gly Asp Ser Arg Asp Ser Glu Ala Asp			
465	470	475	480
Leu Glu Gly His Glu Ile His Arg Pro Asn Ser Leu Arg Ala Leu Leu			
485	490	495	
Ser Thr Pro Thr His Thr Val His Arg Leu Trp Arg Lys Phe Asp Asp			
500	505	510	
Ser Phe Met Arg Pro Val Phe Gly Gly Arg Gly Phe Val Pro Val Glu			
515	520	525	
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CD097PCT.ST25.txt

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<211> 2263
<212> DNA
<213> Suaeda maritima subsp. salsa

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gcacaaagaa ataggtgaac aatgttgtaa cagttgagct cttttttgc aagaatagatg 180
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<210> 8
<211> 556
<212> PRT
<213> Suaeda maritima subsp. salsa

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Ser Thr Ser Asp His Ala Ser Val Val Ser Met Asn Leu Phe Val Ala
20          25          30

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CD097PCT.ST25.txt

Leu Leu Arg Gly Cys Ile Val Ile Gly His Leu Leu Glu Glu Asn Arg
 35 40 45

Trp Met Asn Glu Ser Ile Thr Ala Leu Leu Ile Gly Leu Ser Thr Gly
 50 55 60

Ile Ile Ile Leu Leu Ile Ser Gly Gly Lys Ser Ser His Leu Leu Val
 65 70 75 80

Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe
 85 90 95

Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile
 100 105 110

Thr Ile Ile Leu Phe Gly Ala Val Gly Thr Leu Val Ser Phe Ile Ile
 115 120 125

Ile Ser Leu Gly Ser Ile Ala Ile Phe Gln Lys Met Asp Ile Gly Ser
 130 135 140

Leu Glu Leu Gly Asp Leu Leu Ala Ile Gly Ala Ile Phe Ala Ala Thr
 145 150 155 160

Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu
 165 170 175

Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser
 180 185 190

Val Val Leu Phe Asn Ala Ile Gln Asn Phe Asp Leu Thr His Ile Asp
 195 200 205

His Arg Ile Ala Phe Gln Phe Gly Gly Asn Phe Leu Tyr Leu Phe Phe
 210 215 220

Ala Ser Thr Leu Leu Gly Ala Val Thr Gly Leu Leu Ser Ala Tyr Val
 225 230 235 240

Ile Lys Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala
 245 250 255

Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe
 260 265 270

Tyr Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser
 275 280 285

His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys
 290 295 300

His Ala Phe Ala Thr Leu Ser Phe Val Ala Glu Ile Phe Ile Phe Leu
 305 310 315 320

Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Arg Phe Val Ser
 325 330 335

Asp Ser Pro Gly Thr Ser Val Ala Val Ser Ser Ile Leu Leu Gly Leu

CD097PCT.ST25.txt
340 345 350
His Met Val Gly Arg Ala Ala Phe Val Phe Pro Phe Ala Phe Leu Met
355 360 365
Asn Leu Ser Lys Lys Ser Asn Ser Glu Lys Val Thr Phe Asn Gln Gln
370 375 380
Ile Val Ile Trp Trp Ala Gly Leu Met Lys Ser Ala Val Ser Val Ala
385 390 395 400
Leu Ala Tyr Asn Gln Phe Ser Arg Ser Gly His Thr Gln Leu Arg Gly
405 410 415
Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr
420 425 430
Met Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Leu Phe Met Leu Pro
435 440 445
Gln Pro Lys His Phe Thr Ser Ala Ser Thr Val Ser Asp Leu Gly Ser
450 455 460
Pro Lys Ser Phe Ser Leu Pro Leu Leu Glu Asp Arg Gln Asp Ser Glu
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Ala Asp Leu Gly Asn Asp Asp Glu Glu Ala Tyr Pro Arg Gly Thr Ile
485 490 495
Ala Arg Pro Thr Ser Leu Arg Met Leu Leu Asn Ala Pro Thr His Thr
500 505 510
Val His His Tyr Trp Arg Arg Phe Asp Asp Tyr Phe Met Arg Pro Val
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CD097PCT.ST25.txt

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Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn	Arg
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Trp	Val	Asn	Glu	Ser	Thr	Ala	Leu	Ile	Val	Gly	Leu	Gly	Thr	Gly	Thr
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Ser	Glu	Asp	Leu	Phe	Phe	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn	
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Ser	Leu	Gly	Ala	Leu	Gly	Leu	Ile	Ser	Arg	Leu	Asn	Ile	Gly	Ala	Leu
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Ser	Val	Cys	Thr	Leu	Gln	Val	Leu	Ser	Gln	Asp	Glu	Thr	Pro	Phe	Leu
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Tyr	Ser	Leu	Val	Phe	Gly	Glu	Val	Val	Asn	Asp	Ala	Thr	Ser	Val
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CD097PCT.ST25.txt

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Glu Val Val Phe His Leu Leu Gly Asn Phe Phe Tyr Leu Phe Leu Leu		
210	215	220
Ser Thr Val Leu Gly Val Ala Thr Gly Leu Ile Ser Ala Leu Val Ile		
225	230	235
Lys Lys Leu Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu		
245	250	255
Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ala		
260	265	270
Leu Ser Gly Ile Leu Thr Val Phe Phe Gly Cys Ile Val Met Ser His		
275	280	285
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His		
290	295	300
Ala Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Leu Phe Leu Tyr		
305	310	315
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Val Gly Met Asp Ala Leu Asp Ile Asp Lys Trp Arg Ser Val Ser Asp		
325	330	335
Thr Pro Gly Lys Ser Leu Ala Ile Ser Ser Ile Leu Met Gly Leu Val		
340	345	350
Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn		
355	360	365
Leu Ala Lys Lys Thr Glu His Glu Lys Ile Ser Trp Lys Gln Gln Val		
370	375	380
Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu		
385	390	395
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Ala Tyr Lys Lys Phe Thr Arg Ala Gly His Thr Gln Val Arg Gly Asn		
405	410	415
Ala Ile Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Met		
420	425	430
Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro His		
435	440	445
Arg Asn Ala Thr Ser Met Leu Ser Asp Asp Ser Ser Pro Lys Ser Leu		
450	455	460
His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Asp Leu Glu Glu Pro		
465	470	475
480		
Thr Asn Ile Pro Arg Pro Ser Ser Ile Arg Gly Glu Phe Leu Thr Met		
485	490	495

CD097PCT.ST25.txt

Thr Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Ala Phe Met
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Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser
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<212> DNA

<213> Zea mays

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CD097PCT.ST25.txt

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Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe		
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Thr Ile Ile Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Phe Val Ile		
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Ile Ser Leu Gly Ala Met Gly Leu Phe Lys Lys Leu Asp Val Gly Pro		
130	135	140
Leu Glu Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr		
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Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu		
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Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser		
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Ile Val Val Phe Asn Ala Leu Gln Asn Phe Asp Ile Thr His Ile Asn		
195	200	205
Ala Glu Val Val Phe His Leu Leu Gly Asn Phe Leu Tyr Leu Phe Leu		
210	215	220
Leu Ser Thr Val Leu Gly Val Ala Thr Gly Leu Ile Ser Ala Leu Val		
225	230	235
240		
Ile Lys Lys Ile Tyr Phe Gly Arg His Ser Thr Asp Arg Glu Val Ala		
245	250	255
Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe		
260	265	270
Ala Leu Ser Gly Ile Leu Thr Val Phe Phe Gly Cys Ile Val Met Ser		
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His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys		
290	295	300
His Ala Phe Ala Thr Leu Ser Phe Leu Ala Glu Thr Phe Ile Phe Leu		
305	310	315
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Asp Thr Pro Gly Lys Ser Ile Ala Ile Ser Ser Ile Leu Met Gly Leu		
340	345	350

CD097PCT.ST25.txt

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Val Val Ile Trp Trp Ser Gly Leu Met Arg Gly Ala Val Ser Met Ala
 385 390 395 400

Leu Ala Tyr Asn Lys Phe Thr Arg Ala Gly His Thr Glu Val Arg Gly
 405 410 415

Asn Glu Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr
 420 425 430

Val Val Phe Gly Leu Leu Thr Lys Pro Leu Ile Arg Leu Leu Met Pro
 435 440 445

His Arg His Leu Thr Met Leu Ser Asp Asp Ser Thr Pro Lys Ser Leu
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His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Ser Ile Glu Glu Pro
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Thr Gln Ile Pro Arg Pro Thr Asn Ile Arg Gly Glu Phe Thr Thr Met
 485 490 495

Thr Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Lys Phe Met
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Asn Glu Ser Ile Thr Ala Ile Leu Val Gly Ala Ala Thr Gly Thr Val
50 55 60

Ile Leu Leu Ile Ser Lys Gly Lys Ser Ser His Ile Leu Val Phe Asp
65 70 75 80

Glu Glu Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Ile Phe Asn Ala
 85 90 95

Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Ile Thr Ile
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Ile Leu Phe Gly Ala Ile Gly Thr Leu Ile Ser Phe Val Ile Ile Ser
115 120 125

Leu Gly Ala Met Gly Leu Phe Lys Lys Leu Asp Val Gly Pro Leu Glu
130 135 140

Leu Gly Asp Tyr Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser
 145 150 155 160

Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Leu Leu Tyr
 165 170 175

Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val
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Leu Phe Asn Ala Val Gln Lys Ile Asp Phe Glu His Leu Thr Gly Glu
195 200 205

CD097PCT.ST25.txt

Val Ala Leu Gln Val Phe Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser
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Thr Val Leu Gly Ile Ala Thr Gly Leu Ile Thr Ala Phe Val Leu Lys
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Thr Leu Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met
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Val Leu Met Ala Tyr Leu Ser Phe Met Leu Ala Glu Leu Phe Ser Leu
 260 265 270

Ser Gly Ile Ile Thr Val Phe Phe Cys Gly Val Leu Met Ser His Val
 275 280 285

Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Ser Arg His Val
 290 295 300

Phe Ala Met Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe Leu Tyr Val
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Gly Thr Asp Ala Leu Asp Phe Thr Lys Trp Lys Thr Ser Ser Leu Ser
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Phe Gly Lys Ser Leu Gly Val Ser Ser Val Leu Leu Gly Leu Val Leu
 340 345 350

Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu
 355 360 365

Ser Lys Lys His Pro Gly Glu Lys Ile Thr Ile Arg Gln Gln Val Val
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 385 390 395 400

Phe Asn Lys Phe Thr Arg Ala Gly His Thr Gln Val Arg Gly Asn Ala
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Ile Met Ile Thr Ser Thr Ile Ile Val Val Leu Phe Ser Thr Val Val
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Phe Gly Leu Leu Thr Lys Pro Leu Ile Asn Leu Leu Ile Pro His Arg
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Asn Ala Thr Ser Met Leu Ser Asp Asp Ser Ser Pro Lys Ser Leu His
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Ser Pro Leu Leu Thr Ser Gln Leu Ile Ser Ser Ile Glu Glu Pro Thr
 465 470 475 480

Gln Ile Pro Arg Pro Thr Asn Ile Arg Gly Glu Phe Met Thr Met Thr
 485 490 495

Arg Thr Val His Arg Tyr Trp Arg Lys Phe Asp Asp Lys Phe Met Arg
 500 505 510

Pro Met Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro

CD097PCT.ST25.txt

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CD097PCT.ST25.txt

65	70	75	80
Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala Gly			
85	90	95	
Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Met Thr Ile Thr			
100	105	110	
Leu Phe Gly Ala Val Gly Thr Met Ile Ser Phe Phe Thr Ile Ser Leu			
115	120	125	
Gly Ala Ile Ala Thr Phe Ser Arg Met Ser Ile Gly Thr Leu Asp Val			
130	135	140	
Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser Val			
145	150	155	160
Cys Thr Leu Gln Val Leu His Gln Asp Glu Thr Pro Phe Leu Tyr Ser			
165	170	175	
Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Val Val Leu			
180	185	190	
Phe Asn Ala Val Gln Lys Ile Gln Phe Thr His Ile Asn Ala Trp Thr			
195	200	205	
Ala Leu Gln Leu Ile Gly Asn Phe Leu Tyr Leu Phe Ser Thr Ser Thr			
210	215	220	
Leu Leu Gly Ile Gly Thr Gly Leu Ile Thr Ala Phe Val Leu Lys Lys			
225	230	235	240
Leu Tyr Phe Gly Arg His Ser Thr Thr Arg Glu Leu Ala Ile Met Ile			
245	250	255	
Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Phe Ser Leu Ser			
260	265	270	
Gly Leu Leu Thr Val Phe Phe Cys Gly Val Leu Met Ser His Val Thr			
275	280	285	
Trp His Asn Val Thr Glu Ser Ser Arg Thr Thr Ser Arg His Val Phe			
290	295	300	
Ala Thr Leu Ser Phe Ile Ser Glu Thr Phe Ile Phe Leu Tyr Val Gly			
305	310	315	320
Met Asp Ala Leu Asp Phe Glu Lys Trp Lys Thr Ser Ser Leu Ser Phe			
325	330	335	
Gly Gly Thr Leu Gly Val Ser Gly Val Leu Met Gly Leu Val Met Leu			
340	345	350	
Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu Ala			
355	360	365	
Lys Lys His Gln Ser Glu Lys Ile Ser Phe Arg Met Gln Val Val Ile			
370	375	380	

CD097PCT.ST25.txt

Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Met Ala Leu Ala Leu
 385 390 395 400

Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala Ile
 405 410 415

Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val Phe
 420 425 430

Gly Met Ile Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro Ala Ser Gly
 435 440 445

His Pro Arg Glu Leu Ser Glu Pro Ser Ser Pro Lys Ser Phe His Ser
 450 455 460

Pro Leu Leu Thr Ser Gln Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
 465 470 475 480

Ile Val Arg Pro Ser Ser Leu Arg Gly Leu Leu Thr Lys Pro Thr His
 485 490 495

Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
 500 505 510

Val Phe Gly Gly Arg Gly Phe Val Pro Phe Val Pro Gly Ser Pro Thr
 515 520 525

Glu Arg Asn Pro Pro Asp Leu Ser Lys Ala
 530 535

<210> 17
 <211> 2564
 <212> DNA
 <213> Hordeum vulgare

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 gctcaacagag tccatcaccc ccctcatcat cgggctgtgc accggcggtgg tgatcctgtat 600
 gaccaccaag gggaaagagct cgcacgtgtc cgtcttcgcg gaggacactt tcttcatata 660
 cctcctccct cccatcatct tcaacgcgcgg tttccagggt aagaagaagc agttttccg 720
 gaatttcatg acaatcacat tattcgccgc tgcggggacg atgatttcat tcttcacaaat 780
 ctctcttgcgt gccattgcga tattcagcaa gatgaacatt gggacactgg atgtatcaga 840
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 caatcaggac gagacgccc ttcgtacag tctatttc ggggaagggt ttgtgaacga 960
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 aatcgtcatt ctgaagttct tgggaaactt ctgctactta ttcgtgtcaa gcacccct 1080
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CD097PCT.ST25.txt

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aatctcctcc	cccacccct	agtggattgg	tgtatggtg	tgtactttac	caagttgtgt	2460
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<210> 18

<211> 538

<212> PRT

<213> Hordeum vulgare

<400> 18

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Leu	Ala	Thr	Ser	Asp	His	Ala	Ser	Val	Val	Ser	Ile	Asn	Leu	Phe	Val
								20	25			30			

Ala	Leu	Leu	Cys	Ala	Cys	Ile	Val	Leu	Gly	His	Leu	Leu	Glu	Glu	Asn
								35	40			45			

Arg	Trp	Leu	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Ile	Ile	Gly	Leu	Cys	Thr
						50			55		60				

Gly	Val	Val	Ile	Leu	Met	Thr	Thr	Lys	Gly	Lys	Ser	Ser	His	Val	Leu
					65			70		75			80		

Val	Phe	Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile
					85			90			95				

Phe	Asn	Ala	Gly	Phe	Gln	Val	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	
					100			105			110				

Met	Thr	Ile	Thr	Leu	Phe	Gly	Ala	Val	Gly	Thr	Met	Ile	Ser	Phe	Phe
					115			120		125					

Thr	Ile	Ser	Leu	Ala	Ala	Ile	Ala	Ile	Phe	Ser	Lys	Met	Asn	Ile	Gly
					130			135		140					

Thr	Leu	Asp	Val	Ser	Asp	Phe	Leu	Ala	Ile	Gly	Ala	Ile	Phe	Ser	Ala
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CD097PCT.ST25.txt

Thr Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro
 165 170 175
 Phe Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr
 180 185 190
 Ser Val Val Leu Phe Asn Ala Leu Gln Asn Phe Asp Pro Asn Gln Ile
 195 200 205
 Asp Ala Ile Val Ile Leu Lys Phe Leu Gly Asn Phe Cys Tyr Leu Phe
 210 215 220
 Val Ser Ser Thr Phe Leu Gly Val Phe Ser Gly Leu Leu Ser Ala Tyr
 225 230 235 240
 Ile Ile Lys Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val
 245 250 255
 Ala Leu Met Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu
 260 265 270
 Leu Asp Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met
 275 280 285
 Ser His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr
 290 295 300
 Lys His Ala Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe
 305 310 315 320
 Leu Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Ala
 325 330 335
 Ser Asp Ser Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly
 340 345 350
 Leu Val Leu Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu
 355 360 365
 Ser Asn Leu Thr Lys Lys Thr Glu Leu Glu Lys Ile Ser Trp Arg Gln
 370 375 380
 Gln Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile
 385 390 395 400
 Ala Leu Ala Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His
 405 410 415
 Gly Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser
 420 425 430
 Thr Met Leu Phe Gly Ile Leu Thr Lys Pro Leu Ile Arg Phe Leu Leu
 435 440 445
 Pro Ala Ser Ser Asn Gly Asp Pro Ser Glu Pro Ser Ser Pro Lys Ser
 450 455 460

CD097PCT.ST25.txt

Leu His Ser Pro Leu Leu Thr Ser Met Leu Gly Ser Asp Met Glu Ala
 465 470 475 480

Pro Leu Pro Ile Val Arg Pro Ser Ser Leu Arg Met Leu Ile Thr Lys
 485 490 495

Pro Thr His Thr Ile His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu
 500 505 510

Met Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Tyr Ser Pro Gly
 515 520 525

Ser Pro Thr Asp Pro Asn Val Ile Val Ala
 530 535

<210> 19

<211> 2422

<212> DNA

<213> Triticum aestivum

<400> 19

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CD097PCT.ST25.txt

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<210> 20
 <211> 538
 <212> PRT
 <213> Triticum aestivum

<400> 20
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Leu Gly Thr Ser Asp His Ala Ser Val Val Ser Ile Thr Leu Phe Val
 20 25 30

Ala Leu Leu Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn
 35 40 45

Arg Trp Leu Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr
 50 55 60

Gly Val Val Ile Leu Met Thr Thr Lys Gly Lys Ser Ser His Val Leu
 65 70 75 80

Val Phe Ser Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile
 85 90 95

Phe Asn Ala Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe
 100 105 110

Met Ala Ile Thr Leu Phe Gly Ala Val Gly Thr Met Met Ser Phe Phe
 115 120 125

Thr Ile Ser Leu Ala Ala Ile Ala Ile Phe Ser Arg Met Asn Ile Gly
 130 135 140

Thr Leu Asp Val Ser Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala
 145 150 155 160

Thr Asp Ser Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro
 165 170 175

Phe Leu Tyr Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr
 180 185 190

Ser Val Val Leu Phe Asn Ala Leu Gln Asn Phe Asp Pro Asn Gln Ile
 195 200 205

Asp Ala Ile Val Ile Leu Lys Phe Leu Gly Asn Phe Cys Tyr Leu Phe
 210 215 220

Val Ser Ser Thr Phe Leu Gly Val Phe Thr Gly Leu Leu Ser Ala Tyr
 225 230 235 240

Val Ile Lys Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val
 245 250 255

CD097PCT.ST25.txt

Ala Leu Val Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu
 260 265 270

Leu Asp Leu Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met
 275 280 285

Ser His Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr
 290 295 300

Lys His Ala Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe
 305 310 315 320

Leu Tyr Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Phe Ala
 325 330 335

Ser Asp Ser Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly
 340 345 350

Leu Val Leu Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu
 355 360 365

Ser Asn Leu Thr Lys Lys Thr Glu Leu Glu Lys Ile Ser Trp Arg Gln
 370 375 380

Gln Ile Val Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile
 385 390 395 400

Ala Leu Ala Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His
 405 410 415

Gly Asn Ala Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser
 420 425 430

Thr Met Leu Phe Gly Ile Leu Thr Lys Pro Leu Ile Arg Phe Leu Leu
 435 440 445

Pro Ala Ser Ser Asn Gly Ala Ala Ser Asp Pro Ala Ser Pro Lys Ser
 450 455 460

Leu His Ser Pro Leu Leu Thr Ser Gln Leu Gly Ser Asp Leu Glu Ala
 465 470 475 480

Pro Leu Pro Ile Val Arg Pro Ser Ser Leu Arg Met Leu Ile Thr Lys
 485 490 495

Pro Thr His Thr Ile His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu
 500 505 510

Met Arg Pro Met Phe Gly Gly Arg Gly Phe Val Pro Tyr Ser Pro Gly
 515 520 525

Ser Pro Thr Asp Pro Asn Val Leu Val Glu
 530 535

<210> 21
 <211> 1726
 <212> DNA

CD097PCT.ST25.txt

<213> Oryza sativa

<400> 21

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aaaaaaccaa	ttgcttaag	tgcaactata	ttgggcttgg	ttatggttgg	aagagcagca	1140
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ccctccctc	agaacaacct	tcagcttctt	ctcaccatc	agactcgctc	cgttcatcgc	1560
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<210> 22

<211> 544

<212> PRT

<213> Oryza sativa

<400> 22

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															30

Leu	Cys	Ser	Cys	Ile	Val	Ile	Gly	His	Leu	Leu	Glu	Gly	Asn	Arg	Trp

Val	Asn	Glu	Ser	Ile	Thr	Ala	Leu	Val	Met	Gly	Leu	Ile	Thr	Gly	Gly
															50
															55
															60

Val	Ile	Leu	Leu	Val	Ser	Gly	Gly	Lys	Asn	Ser	His	Ile	Leu	Val	Phe
															65
															70
															75
															80

Ser	Glu	Asp	Leu	Phe	Phe	Ile	Tyr	Leu	Leu	Pro	Pro	Ile	Ile	Phe	Asn
															85
															90
															95

Ala	Gly	Phe	Gln	Val	Lys	Lys	Gln	Phe	Phe	Arg	Asn	Phe	Met	Thr
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CD097PCT.ST25.txt

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Val Leu Phe Asn Ala Ile Glu Asp Ile Asp Ile Ala Asn Phe Asp Ser		
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210 215 220		
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Lys Lys Leu Cys Phe Ala Arg His Ser Thr Asp Arg Glu Val Ala Ile		
245 250 255		
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260 265 270		
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275 280 285		
Tyr Thr Trp His Asn Val Thr Glu Ser Ser Arg Ile Thr Thr Lys His		
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Thr Phe Ala Thr Leu Ser Phe Ile Ala Glu Ile Phe Leu Phe Leu Tyr		
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Val Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Lys Leu Ala Ser Ser		
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Met Val Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn		
355 360 365		
Leu Ser Lys Lys Glu Thr Arg Pro Lys Ile Ser Phe Lys Gln Gln Val		
370 375 380		
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Ala Tyr His Lys Phe Thr Ala Ser Gly His Thr Glu Leu Arg Ile Asn		
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Ala Ile Met Ile Thr Ser Thr Val Ile Val Val Leu Phe Ser Thr Met
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Val Phe Gly Phe Phe Thr Lys Pro Leu Leu Asn Leu Leu Ile Pro Pro
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Arg Pro Asp Ile Ala Ala Asp Leu Ser Ser Gln Ser Ile Ile Asp Pro
 450 455 460

Leu Leu Gly Ser Leu Leu Gly Ser Asp Phe Asp Val Gly Gln Pro Ser
 465 470 475 480

Pro Gln Asn Asn Leu Gln Leu Leu Leu Thr Ile Gln Thr Arg Ser Val
 485 490 495

His Arg Val Trp Arg Lys Phe Asp Asp Arg Phe Met Arg Pro Met Phe
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<211> 1902

<212> DNA

<213> *Saccharomyces cerevisiae*

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CD097PCT.ST25.txt

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Val Asp Leu Asn Pro Val Thr Glu Glu Met Phe Ser Ser Trp Ala Leu		
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Phe Ile Met Leu Leu Leu Ile Ser Ala Leu Trp Ser Ser Tyr Tyr		
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115	120	125
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130	135	140
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145	150	155
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Thr Phe Ile Ser Ala Val Val Ile Gly Ile Ile Leu Tyr Ile Trp Thr		
165	170	175
Phe Leu Gly Leu Glu Ser Ile Asp Ile Ser Phe Ala Asp Ala Met Ser		
180	185	190
Val Gly Ala Thr Leu Ser Ala Thr Asp Pro Val Thr Ile Leu Ser Ile		
195	200	205
Phe Asn Ala Tyr Lys Val Asp Pro Lys Leu Tyr Thr Ile Ile Phe Gly		
210	215	220
Glu Ser Leu Leu Asn Asp Ala Ile Ser Ile Val Met Phe Glu Thr Cys		
225	230	235
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Gln Lys Phe His Gly Gln Pro Ala Thr Phe Ser Ser Val Phe Glu Gly		

CD097PCT.ST25.txt

245	250	255
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275	280	285
Arg Tyr Pro Gln Ile Glu Ser Cys Leu Ile Leu Leu Ile Ala Tyr Glu		
290	295	300
Ser Tyr Phe Phe Ser Asn Gly Cys His Met Ser Gly Ile Val Ser Leu		
305	310	315
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Leu Phe Cys Gly Ile Thr Leu Lys His Tyr Ala Tyr Tyr Asn Met Ser		
325	330	335
Arg Arg Ser Gln Ile Thr Ile Lys Tyr Ile Phe Gln Leu Leu Ala Arg		
340	345	350
Leu Ser Glu Asn Phe Ile Phe Ile Tyr Leu Gly Leu Glu Leu Phe Thr		
355	360	365
Glu Val Glu Leu Val Tyr Lys Pro Leu Leu Ile Ile Val Ala Ala Ile		
370	375	380
Ser Ile Cys Val Ala Arg Trp Cys Ala Val Phe Pro Leu Ser Gln Phe		
385	390	395
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Val Asn Trp Ile Tyr Arg Val Lys Thr Ile Arg Ser Met Ser Gly Ile		
405	410	415
Thr Gly Glu Asn Ile Ser Val Pro Asp Glu Ile Pro Tyr Asn Tyr Gln		
420	425	430
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435	440	445
Ala Leu Gly Ile Gln Gly Glu Tyr Lys Phe Thr Leu Leu Ala Thr Val		
450	455	460
Leu Val Val Val Val Leu Thr Val Ile Ile Phe Gly Gly Thr Thr Ala		
465	470	475
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Gly Met Leu Glu Val Leu Asn Ile Lys Thr Gly Cys Ile Ser Glu Glu		
485	490	495
Asp Thr Ser Asp Asp Glu Phe Asp Ile Glu Ala Pro Arg Ala Ile Asn		
500	505	510
Leu Leu Asn Gly Ser Ser Ile Gln Thr Asp Leu Gly Pro Tyr Ser Asp		
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Asn Asn Ser Pro Asp Ile Ser Ile Asp Gln Phe Ala Val Ser Ser Asn		
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Lys Asn Leu Pro Asn Asn Ile Ser Thr Thr Gly Gly Asn Thr Phe Gly		
545	550	555
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CD097PCT.ST25.txt

Gly Leu Asn Glu Thr Glu Asn Thr Ser Pro Asn Pro Ala Arg Ser Ser
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Met Asp Lys Arg Asn Leu Arg Asp Lys Leu Gly Thr Ile Phe Asn Ser
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Asp Ser Gln Trp Phe Gln Asn Phe Asp Glu Gln Val Leu Lys Pro Val
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<212> DNA

<213> Magnaporthe grisea

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<212> PRT

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CD097PCT.ST25.txt

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 35 40 45
 Ile Phe Phe Asn Leu Leu Leu Pro Pro Ile Ile Leu Ser Ser Gly Tyr
 50 55 60
 Glu Leu His Gln Ala Asn Phe Phe Arg His Ile Gly Thr Ile Leu Thr
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 Phe Ala Phe Ala Gly Thr Phe Leu Ser Ala Val Val Ile Gly Val Ile
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 Leu Trp Leu Tyr Thr Arg Val Pro Leu Glu Gly Leu Thr Met Asn Trp
 100 105 110
 Ile Asp Ala Ile Ser Val Gly Ala Thr Leu Ser Ala Thr Asp Pro Val
 115 120 125
 Thr Ile Ile Ala Ile Phe Asn Ser Tyr Lys Val Asp Pro Lys Leu Tyr
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 Ile Phe Glu Ser Ala Gln Lys Ser Ala Arg Gly Leu Thr Lys Gly Ser
 165 170 175
 Ala Ala Gly Ile Ser Thr Phe Phe Trp Gly Phe Trp Ile Phe Leu Arg
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 Asp Phe Phe Gly Ser Leu Phe Ile Gly Ala Leu Leu Gly Ile Leu Thr
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 210 215 220
 Ser Cys Leu Ile Val Leu Ile Ala Tyr Ala Thr Tyr Tyr Phe Ser Gln
 225 230 235 240
 Ala Ile His Met Ser Gly Ile Val Ser Leu Leu Phe Cys Gly Ile Thr
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 Leu Lys His Tyr Ala Tyr Phe Asn Met Ser Arg Arg Thr Gln Leu Thr
 260 265 270
 Thr Lys Tyr Met Phe Gln Val Leu Ala Gln Leu Ser Glu Asn Phe Ile
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 Phe Ile Tyr Leu Gly Val Ser Leu Phe Thr Asp Lys Asp Leu Gln Phe
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 Tyr Lys Tyr Gln Gly Met Leu Phe Trp Ala Gly Leu Arg Gly Ala Val
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 Gly Val Ala Leu Ala Ala Leu Leu Thr Ala Lys Asp His Arg Ala Phe
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 385 390 395 400
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 Thr Asp Glu Ile Asp Ser Asp Asp Glu Phe Asp Ile Glu Ala Val Gly
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 Gly Tyr Tyr Lys Arg Ser Gly Asn Gly Ile Gly Tyr Ser Pro Ala Gly
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 450 455 460
 Ser Asn Gly Ala Val Gly Gly Arg Asp Ala Ser Gly Trp Ser Ser Gly
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 Arg Ser Asn Thr Glu Thr Gly Gly Leu Ser Ala Thr Ala Ala Ile Arg
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